4 | LONG-TERM SOLUTIONS FOR IMPROVING NUMBER RESOURCE UTILIZATION

The principal alternative to the continual creation of new area codes and telephone numbers is to somehow improve the way in which the *existing* stock of numbers is utilized, to pierce the various geographic and other barriers across which number use has, up to now, been precluded. Accomplishing this will require that the major causes of number exhaust be addressed and resolved:

- Full NXX code assignments irrespective of a carrier's actual need.
- No carrier accountability for number utilization.
- Wireless industry resistance to "mobile services overlay" solutions.
- Unnecessarily large number of individual rating areas.

The availability of solutions other than the creation of new area codes is not new; some of these measures have been available for many years. So why haven't they been pursued? There does not appear to be a good answer to that question, except perhaps because the various *societal* costs that are incurred by residential and business users and by the community at large are "invisible" to the telephone industry itself. Like pollution, the only way in which the "cost causer" can be made to consider the externalities arising from its actions is to "internalize" those costs in some manner. Short of that, affirmative regulatory intervention may be the only means by which carriers can be made to pursue number resource management policies that minimize user impact and overall societal cost.

De-fragmenting the NANP

The solution to the number exhaust problem is to find ways to share individual 10,000-number NXX blocks among several carriers operating within the same rating area, and/or among several different rating areas, and to place the fixed and mobile services, whose

respective requirements for rating and routing are fundamentally different from the needs of the geographically fixed services, into entirely separate area codes. Each and all of the following specific policy initiatives should be pursued:

- *Number pooling.* Despite the fact that many number users and uses may require far fewer than the full 10,000 number capacity of an NXX code, and the fact that assignment of less-than-full NXX codes is both technically possible and has in fact occurred in some (albeit limited) situations, ILECs, acting as code administrators for their NPAs, have generally refused to assign less than full NXX codes, thereby removing enormous quantities of numbers from the available inventory. The forthcoming implementation of permanent Local Number Portability (LNP) in the various Metropolitan Statistical Areas (MSAs), scheduled to begin in early 1998 as required by the FCC,[31] will permit number assignment practices that should virtually eliminate the need for separate NXX codes for each carrier operating within a given rating area. 10,000-number NXX codes can be efficiently shared among multiple providers by "pooling" the stock of numbers within the full code until actually needed by individual carriers. In theory, numbers could be assigned individually as needed (the approach used for 800/888 number assignment). However, for administrative convenience it may be more appropriate to assign numbers to carriers in blocks of 100 or 1,000 at a time. While implementation of permanent data base LNP would seem to be a necessary prerequisite for number pooling, additional administrative mechanisms are required for number assignment and management.[32]

- *Rate center consolidation.* Even though it is widely recognized and understood that the extreme granularity with which individual rating areas are defined is one of the largest causes of the demand for additional NXX codes, those responsible for administering the NANP, including regulatory authorities and the ILECs, have done virtually nothing even to address, let alone correct, this problem. As a result, new entrants with limited market penetration that serve multiple rating areas will be forced to occupy many more full NXX codes than would be required if rating area consolidation could be accomplished. Fundamental changes should be made in the granularity with which

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31. The implementation of LNP is scheduled to occur between January 1, 1998 and May 15, 1998 in the Cleveland area. *In the Matter of Telephone Number Portability*, CC Docket No. 95-116, Appendix E-1.

32. Under so-called Location Routing Number (LRN) LNP, an entire NXX is "assigned" as the default to a specific carrier, with individual numbers within the NXX code being "ported" to other carriers. Normally, the "default" carrier for the NXX is permitted to assign any number therein to any of its customers, and gives up numbers temporarily only when an individual customer switches to another local service provider. (Ported numbers are returned to the default carrier when the customer discontinues service altogether.) Under number pooling, however, a carrier is allocated a block of numbers within the full code, and several different carriers will typically share the code for initial assignment of numbers. Additional administration is thus required for such shared codes, and carriers have complained that such mechanisms will require considerable time to develop and implement.

individual rating areas (exchanges or rate centers) are presently defined. A consequence of this policy would likely be an expansion in the size of certain local calling areas and/or the elimination of some existing distance-sensitive charges. These types of local pricing revisions are, however, fully justified by the cost structure of modern telecommunications networks, and are long overdue for reasons unrelated to numbering issues. Expansion of calling areas and elimination of distance-based charges may have small negative revenue impacts on the incumbent LEC,[33] but these pale in magnitude to the huge tangible and intangible costs associated with the introduction of new area codes. Moreover, any minor revenue effects of rate center consolidation can be easily remedied through other offsetting tariff revisions, such as through small upward adjustments to the measured usage charges or to flat monthly usage rates.

- *Number utilization audits and penalties.* Carriers requesting NXX code assignments are not required to provide utilization forecasts at all where the request is for the initial code in a particular rating area,[34] and are made to "certify" forecasts of code utilization levels within a specified time period where the request is for one or more additional codes.[35] However, carriers are rarely if ever subjected to after-the-fact audits of their number forecasts or ultimate utilization. Concerned about the prospect of impending number shortages, some carriers have themselves contributed to the situation by requesting more numbers than they may actually require to meet current demands, permitting them to amass large inventories of numbers that are then not available for use by others. However, because of the lack of accountability, regulators have been frustrated in their efforts to identify, let alone prevent, these practices. Existing number assignment guidelines require minimal "certifications" by the requesting carrier that NXX codes being requested will be utilized. These "certifications" are rarely if ever subject to audit or *ex post* examination, and in any event carriers are not subject to any penalties for mis-forecasting their demand and number resource needs. Code administrators make no independent evaluation of the underlying demand for the services for which the requested numbers are to be used, and thus have no basis to decline any "reasonable" request by a wireline or wireless

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33. Consolidation of rate centers will have pricing or revenue consequences only where distance-based local pricing is present and/or where the effect of the consolidation is to extend the local calling area into outlying communities that are presently subject to toll charges. Even in such cases, however, only a very small fraction of the total calling volume will normally be affected, in part because the exchanges that are merged would typically each be quite small. But even under broad scale extensions of local calling, the aggregate revenue consequences are often less than might be expected: For example, in a study conducted by ETI for the Delaware Public Service Commission in 1993, ETI estimated that elimination of all toll calling within the state — i.e., making the entire state of Delaware one large local calling area — would require an offsetting local monthly rate increase of $0.71 per residential access line.

34. April, 1997 Industry Numbering Committee (INC) *Central Office Code Assignment Guidelines.*

35. *Id.*, at 7.

carrier. Moreover, the number assignment guidelines do not impose any specific utilization or conservation obligations upon "code holders" and offer no mechanism for reclaiming previously assigned NXX codes if, after the fact, forecasted utilization levels are not achieved. Carriers thus have no incentive to be accurate in their demand forecasts, and in fact have a strong incentive to exaggerate their needs so as to assure themselves an adequate supply of numbers. Code assignment practices need to be revised and refined so as to penalize mis-forecasting and number hoarding.

- *Use of separate area codes for "fixed" and "mobile" services.* The use of a wireless- or mobile-only overlay, an approach adopted by the New York Public Service Commission in 1991,[36] was vehemently opposed by cellular and paging carriers when its use in the Chicago suburbs was proposed by Ameritech in 1994, and has now been foreclosed by an FCC Declaratory Ruling.[37] Yet the effectiveness of this solution in extending the life of geographic NPAs has been amply demonstrated: In an attempt to insulate fixed services from the growth of mobile, the New York PSC in 1991 adopted a "wireless overlay" plan as part of a comprehensive settlement of the 1989 '212' area code relief proceeding.[38] By assigning mobile services to the new '917' NPA, New York was able to avoid additional area code splits/overlays far longer than most other large cities, many of which are considerably *smaller* than New York. The 1985 split of the '212' NPA has lasted for nearly thirteen years, with no further relief being required until the creation of the '646' overlay in Manhattan, slated to take place in 1998.[39] The experience in New York *proves* the fundamental validity of a mobile-specific NPA and should be pursued elsewhere. Although mobile services do not create the same degree of extreme fragmentation of number resources that is typical of geographically fixed services, the attempt to satisfy the mobile services' voracious demand for numbers out of the geographically fixed, highly fragmented NPAs has been the "straw that broke the camel's back" on the nation's numbering system. The FCC should revisit and modify its 1995 Declaratory Ruling to permit states to adopt *mobile* overlay area code relief solutions.

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36. New York PSC, *Proceeding on Motion of the Commission pursuant to Section 97(2) of the Public Service Law concerning the supply of telephone numbers available to New York Telephone Company in New York City*, Case 90-C-0347, *Order Approving Stipulation*, Issued and Effective January 7, 1991.

37. *In the Matter of Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois*, IAD File No. 94-102, *Declaratory Ruling and Order*, CC Docket 95-19, Released January 23, 1995.

38. New York PSC, *Proceeding on Motion of the Commission pursuant to Section 97(2) of the Public Service Law concerning the supply of telephone numbers available to New York Telephone Company in New York City*, Case 90-C-0347, *Order Approving Stipulation*, Issued and Effective January 7, 1991.

39. *New Area Code(s) for New York City - A Description of Options*, Case No. 96-C-1158, prepared by the Staff of the New York State Department of Public Service, July 22, 1997 (http://www.dps.state.ny.us/646.html).

These policy initiatives individually and collectively provide a permanent, long term solution that, if adopted in their entirety, should be fully capable of eliminating entirely the need for additional *geographic* area codes for the foreseeable future. Rate center consolidation will permit the same NXX codes to be shared among what are at present separate rating areas. Number pooling will permit NXX codes to be shared among multiple local carriers serving the same rating areas. Promulgation of industry-wide number assignment and number block utilization standards, enforced by audits and penalties, will minimize hoarding. And placement of mobile services into separate, mobile-only NPAs will work to protect the geographic identity of geographically defined NPAs. Each and all of these measures is technically feasible, economically efficient, and provides a permanent, long term number resource management strategy that best protects the needs and concerns of carriers, customers and the nation as a whole. The demands of special interests should not be permitted to derail efforts at permanently resolving what most would agree is today an untenable situation.

Number pooling based on permanent local number portability: The Long Term Solution

Implementation of permanent data base-driven local number portability makes number pooling possible, and will eliminate the need for the assignment of a full NXX code to each carrier seeking a presence in each rating area, thereby drastically reducing the demand for numbers. Once database LNP and number pooling have been put in place, there will no longer be any need to earmark entire NXX codes to individual carriers or services, and a more orderly number resources management process will once again become possible. Even in allegedly "full" NPAs, far fewer than the possible telephone numbers are currently assigned. Under permanent LNP, numbers can be "pooled" and assigned to carriers as needed, either one at a time (the approach that has been adopted for assignment of '800' and '888' numbers under the FCC-ordered "800 Database" number portability arrangement[40]) or in blocks.

If new local service providers are successful in attracting existing ILEC customers to their service, "pure" single-provider NXX codes (i.e., where all customers with numbers in that NXX code are served by the same carrier) will be a thing of the past. Even if no

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40. *In the Matter of 800 Data Base Access Tariffs and the 800 Service Management System Tariff and Provision of 800 Services*, CC Docket Nos. 93-129 and 86-10, 11 FCC Rcd. at 15227, *Report and Order*, October 28, 1994. The operation of the central 800/888 number data base is managed by Database Services Management Inc. (DSMI), a subsidiary of Bellcore, while Lockheed Information Services Corporation (Lockheed IMS) manages the actual assignment of new 800/888 numbers. Although the central data base is jointly-owned by the BOCs, Lockheed IMS is a neutral third party that is not itself in the business of providing 800/888 service, and will assign individual 800/888 numbers upon request made by a duly authorized "Responsible Organization" ("Resp Org"). *Report and Order*, at ¶s. 10, 211-212.

numbers or number blocks were "assigned" to a new entrant, over time numbers that were previously mapped to ILEC switches will be transferred to CLECs. *The only difference between "number pooling" for assignment purposes and ongoing effects of LNP is the timing of the transfer of numbers to the CLEC.* Moreover, once permanent LNP is in place, the CLECs' need for "assigned" numbers will be greatly reduced, since new numbers will be required only in those (relatively few) cases where the CLEC's customer is not presently served by the ILEC.

Moreover, permanent LNP will eliminate the need for the assignment of two numbers to customers who utilize interim number portability using Remote Call Forwarding (RCF) technology. Under RCF, the customer retains his or her original "listed" number, which is then ported (via RCF) to a second "target" number. Once permanent LNP is implemented, that second, essentially transparent number can be returned to the administrator for reassignment.

Thus, implementation of permanent LNP will free up currently-assigned numbers as well as completely eliminate the need to assign more numbers to a carrier than it realistically needs to meet expected demand for its services. Together with other code conservation measures (such as rate center consolidation), implementation of permanent LNP and number pooling should vastly increase the *effective capacity* of an NPA, bringing the quantity of numbers than can be assigned as a practical matter much closer to the theoretical capacity limits than has been possible up to now using pre-LNP technology.

5 MAKING POLICY "UNDER THE GUN": SHORT TERM CODE RELIEF "FIXES" CAN PRODUCE PERMANENT NEGATIVE IMPACTS

One reason why adoption of long term number resource management solutions has up to now been so elusive is the incumbent carriers' practice of couching all area code matters in "crisis mode." By the time the incumbent LEC, as number administrator, brings the matter to the attention of regulators, it is often only a matter of months before the affected NPA, according to the ILEC, will reach "exhaust." Working as they have with a "gun to their heads," state regulators have been unable to consider and adopt permanent number relief plans and policies. (Chicago provides a case in point — see inset.) Permanent long term solutions are now available, and regulators should resist being forced to accede to expedient, short-term "fixes" merely because the permanent approaches require time. Indeed, to the extent that the incumbent wireline and wireless carriers resist be pressured into accelerating the implementation of permanent number resource management programs, state and federal regulators should pursue interim measures that can avoid irreversible area code splits or overlays until one or more of the permanent solutions becomes available.

It may have been long in coming, but the general public has now finally taken an interest in numbering issues, and has begun to actively oppose the simplistic "add more numbers" quick-fix solutions offered up by the ILECs. Responding to mounting public displeasure with an overlay plan for the Pittsburgh ('412') NPA that would have imposed mandatory 11-digit dialing throughout the area, the Pennsylvania PUC last summer reversed its previous ruling with respect to Pittsburgh (it adopted a geographic split) and undertook to pursue alternative long term solutions for three other Pennsylvania NPAs that would not be compromised by the quick fix of either a split or an overlay.

The major problem with all of the long term strategies is that they require time and planning, and cannot be implemented with impending number exhaust a matter of months away. On the other hand, once an area code has been split or new numbers have been assigned in an all-services overlay, it is almost impossible to undo these short-run measures even when a permanent solution becomes possible. What is needed — and what the Pennsylvania Commission has attempted to craft — is a short-run approach to number relief that *can* be reversed once one or more of the permanent options becomes possible.

Making policy under imminent exhaust conditions: The Chicago Experience

The succession of recent area code exhaust claims in Illinois is illustrative of the problems arise when state regulators are confronted with a (claimed or real) imminent number exhaust situation. In July of 1994, Ameritech advised the Illinois Commerce Commission that the '708' suburban Chicago NPA would soon reach exhaust, and proposed the creation of a mobile services overlay. Cellular and paging carriers opposed that plan, and took the matter to the FCC for a Declaratory Ruling to foreclose this option. That ruling was issued in January, 1995, leaving the Illinois Commission with only a few months to act before work on a new area code relief plan would have to begin. In the meantime, the '708' NPA had run out of NXX codes, and the very same wireless carriers who had opposed "special treatment" now demanded that they be assigned suburban-rated NXX codes out of the Chicago '312' NPA, thereby compromising the geographic integrity of '312' which, up to then, had been limited to the City of Chicago proper.

The Commission adopted a 3-way split of the '708' NPA (into '708', '630', and '847') that had been urged by consumer groups and by state and municipal officials as providing a longer term solution than the two-way split that had been proposed by Ameritech. In the meantime, the use of non-Chicago '312' codes by wireless carriers accelerated the exhaust of NXX codes available for assignment in the City of Chicago itself, causing Ameritech to ask the Commission to approve a geographic split of '312,' which went into effect in late 1996.

Having successfully opposed the mobile overlay, the wireless carriers had problems with the geographic split as well, demanding that they be permitted to retain the preexisting area codes (so as to avoid having to reprogram cellular phones), and also to replicate all then-existing wireless codes in the '708' and '312' NPAs in the newly-created NPAs. As a result, there are today a total of some 911 NXX codes assigned to wireless carriers in the five Chicago area NPAs.

The replication of wireless NXX codes was in violation of the Industry Numbering Committee's *Central Office Code Assignment Guidelines* because literally hundreds of NXX codes were assigned to carriers without their being required to provide any demand forecast or demonstration that any of these codes was actually needed to satisfy current or expected demand. While permitting code replication, the Illinois Commission warned the wireless carriers that they would be held responsible for "the costs and inconveniences associated with the number shortage" if, in that case, the Commission's "approval of the code duplication provision ... contributed to a premature exhaust of NXX codes in that NPA or operated as a barrier to new market entry ..." [Illinois Bell, *Petition for Approval of Stipulation and Agreement of the Parties for a 312 Relief Plan*, Docket No. 95-0371, November 20, 1995. ("312/773 Order"), at 23.]

But code duplication following the 708/630/847 split clearly has "contributed to a premature exhaust of NXX codes in [the 847] NPA." Less than 18 months following the introduction of the '847' NPA, Ameritech asked the Illinois Commission to approve yet another NPA for this area. This time, however, consumer groups and the Illinois Attorney General have demanded that the Commission apply a more long-range perspective to its consideration and approval of any further area code relief, and proceedings intended to do just that have been underway since mid-1997.

Transparent Routing Number Assignment ("TRNA")

The specific approach adopted by the Pennsylvania PUC is the creation of temporary overlay area codes that would be used solely for call routing until permanent local number portability and number pooling become possible. Under this "Transparent Routing Number Assignment" ("TRNA") arrangement, carriers that are unable to obtain new NXX codes in one of the existing geographic NPAs ('717', '215' and '610') would be assigned a code in the overlay NPA. Numbers assigned out of this overlay NPA would not, however, be disclosed to or used by customers. Instead, the carrier would also be given numbers in the preexisting NPAs out of NXX codes that have been previously assigned to existing carriers, who would forward incoming calls dialed to such "public" numbers to the TRNA number using "interim local number portability" technology such as Remote Call Forwarding (RCF).[41] This temporary solution would be replaced by LNP-based pooling, at which point the "borrowed" numbers would be released and returned. Once permanent LNP becomes operational in the exchange, the assigned "public" number would be "ported" to the serving carrier just like any other LNP number.[42]

Several other measures short of the TRNA device may also be employed to stem the tide between short-term code exhaust and the availability of permanent long-term solutions. These include "code sharing" and "route indexing."

Code sharing

While it is the *typical* industry practice to assign only one central office switching entity to a given NXX code (multiple NXX codes are commonly assigned to the same switching entity), long-standing routing protocols permit and support *sharing* of the same NXX code among multiple switching entities by splitting the full 10,000-number block into smaller (typically 1,000-number block) pieces. Codes can be split in integral blocks of

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41. Use of interim local number portability technology makes certain Signalling System 7 functionalities unavailable to the called number. However, these conditions would arise under any application of ILNP, whether or not the specific TRNA solution is pursued.

42. Pennsylvania PUC Docket Nos. P-00961027, P-00961061, P-00961071, *Petition of NPA Relief Coordinator Re: 412, 215/610, 717 Area Code Relief Plans*, Order July 15, 1997. See also Pennsylvania PUC's Comments in Opposition to Petition for a Declaratory Ruling and Request for Expedited Action, *In the Matter of the Pennsylvania Public Utility Commission Order Dated July 15, 1997 Regarding Area Code Relief in the 610, 215, 717 and 412 Area Codes*, FCC NSD File No. L-97-42, December 1, 1997. Implementation of the TRNA plan has, however, not yet occurred. On August 6, 1997, the Chief of the FCC Common Carrier Bureau wrote the NANP Administrator requesting that release of new NPAs for Pennsylvania's use in implementing TRNA be deferred until the details of the plan could be evaluated. (Letter to Ronald R. Conners, Director, NANP Administration from Regina M. Keeney, Chief, Common Carrier Bureau, August 6, 1997.) As of February, 1998, the Bureau had still not approved the issuance of the TRNA NPAs.

1,000 numbers. Industry guidelines describe code sharing as "the assignment of the same Central Office code to two or more Central Office entities, thereby gaining increased use of station numbers in low-fill offices."[43] Individual central offices would usually be differentiated by the NXX-X digit; code sharing "is only practical if the entities involved are within the same toll-rate exchange area and there are economic benefits to be gained."[44] The INC *Central Office Code (NXX) Assignment Guidelines* explicitly state that "[i]n a jeopardy NPA situation, increased code sharing should be considered ...."[45]

These requirements are easily satisfied where a "jeopardy" condition is present and where adoption of this entirely reversible measure can eliminate the need to create an additional area code during the relatively short interval between an immediate number exhaust and the availability of permanent LNP. To provide maximum benefit, code sharing should be implemented in the form of 1,000-number block assignments with respect to all new NXX code assignments as well as for all presently-assigned but not as yet "opened" NXX codes. Unoccupied 1,000-number blocks in previously assigned NXX codes should be immediately returned to the code administrator for reassignment. Heavily underutilized 1,000-number blocks may also be returned to the code administrator for reassignment, although in some cases a few number changes may be required. While there are potentially some small obstacles to the implementation of code sharing, most, if not all, can be readily overcome. According to the *BOC Notes on the LEC Networks*, code sharing "is limited by the costs associated with providing required translations, additional trunking, redesign of automatic rating equipment and coin rates, modification of Automatic Message Accounting (AMA) equipment, and the billing systems."[46] These limitations are barely consequential when considered in relation to the far greater costs and burdens associated with either a geographic split or an overlay. *Most important, code sharing is entirely subsumed within any permanent LNP number pooling arrangement*; there are no long term residual effects of interim code sharing solutions once number pooling becomes available.

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43. Bellcore, *BOC Notes on the LEC Networks ___ 1994*, at 3-11.

44. *Id.*

45. April, 1997 Industry Numbering Committee (INC) *Central Office Code Assignment Guidelines*, at 18. Section 4.3 requires only that before NXX code sharing is implemented it should be "mutually agreed to by affected parties."

46. *BOC Notes on the LEC Networks*, at 3-11.

Route indexing

Route indexing is a third interim option that is readily supported by existing network capabilities in virtually all jurisdictions. Route indexing permits calls to ported numbers to be redirected to a different switching entity (e.g., a CLEC switch) without requiring that the customer be assigned a number in the "target" switch. With route indexing, the switch that first receives the dialed call forwards that call, *along with the dialed number*, to the target switch, using either existing tandem trunks or direct trunking between the switches. The target switch then translates the originally dialed number into a hardware port address in order to complete the call.

Route indexing is analogous to, and utilizes essentially the same technology as, Direct Inward Dialing (DID) arrangements that are commonly provided to PBX customers. With DID, the central office forwards the call along with the dialed number to the PBX, which then completes the call to the designated PBX extension. When utilized to accomplish interim LNP, the relationship between the home switch and the target switch is essentially the same as that between the home switch and a DID PBX. Route indexing offers some advantages over Remote Call Forwarding.

For one thing, route indexing eliminates the need for the assignment of a second telephone number to the customer's line in the target switch. If route indexing is used instead of RCF, there may be less or even no need for a TRNA type of temporary overlay. Also, RCF locks up more capacity in the forwarding switch than does route indexing, making route indexing more practical to implement on a mass scale.

Route indexing has been pursued in a number of jurisdictions. In its First Report and Order on number portability, the FCC mentioned route indexing as a method being used to provide interim number portability.[47] Furthermore, in two arbitration proceedings, the California Public Utilities Commission explicitly directed Pacific Bell and GTE to provide route indexing to carriers who desired it as a number portability method.[48] A number of

47. *In the Matter of Telephone Number Portability*, CC Docket No. 95-116, *First Report and Order*, July 2, 1996, at para. 20.

48. California PUC, Arbitrator's Report, *In the Matter of the Petition of AT&T Communications of California, Inc. for Arbitration Pursuant to Section 252 of the Federal Telecommunications Act of 1996 to Establish an Interconnection Agreement with GTE California, Incorporated*, A.96-08-041, October 31, 1996; California PUC, Arbitrator's Report, *In the Matter of the Petition of AT&T Communications of California, Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Pacific Bell*, A.96-08-040, October 31, 1996.

other states have also mandated that the incumbent provide route indexing as an INP option.[49]

49. *See, for example,* Florida Public Service Commission, *In Re: Investigation into temporary local number portability solution to implement competition in local exchange telephone markets,* Docket No. 950737-TP, Order No. PSC-97-0476-FOF-TP, April 24, 1997, at 13; Missouri Public Service Commission, *In the Matter of AT&T Communications of the Southwest, Inc.'s Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996...,* Case No. TO-097-40 and TO-97-67, December 11, 1996, at 20; Indiana Utility Regulatory Commission, *In the Matter of the Petition of AT&T Communications of Indiana, Inc. Requesting Arbitration of Certain Terms Conditions and Prices for Interconnection...,* Cause No. 40571-INT-01, November 27, 1996.

6 | ACCOMMODATING THE SPECIAL INTERESTS AND CLAIMED NEEDS OF WIRELESS CARRIERS

Wireless carriers have actively opposed efforts to segregate mobile services such as cellular, paging and PCS into special NPAs that would be overlaid on the geographic footprint of one or more geographically fixed NPAs. That was the solution adopted by the New York PSC when in 1991 it created the '917' wireless NPA overlaying the two New York City geographic NPAs, '212' and '718'. Notwithstanding the industry's continuing opposition to this approach, the broader public benefits of a mobile services overlay are considerable, and this solution should now be reevaluated in light of the substantial costs and disruptions that persistent and repeated geographic area code splits and other relief measures have engendered.

In a January, 1995 Declaratory Ruling ("Ameritech Ruling")[50], the FCC rejected a proposal by Ameritech to establish a so-called "wireless overlay" NPA covering the same geographic footprint as the then-existing '708' NPA in the Chicago suburbs.[51] In that action, the Commission promulgated a policy of "technology neutrality" with respect to numbering issues, and precluded what it deemed to be discriminatory access to, or exclusion from, specific NPAs based upon the nature of the *technology* (e.g., wireline vs. wireless) under which a particular service is furnished. In proposing a "wireless overlay," Ameritech had sought to exclude wireless services from the then-existing '708' geographic NPA, and in so doing to preserve '708' exclusively for geographically fixed wireline services.

Ironically, having prevailed in their demands for "technology neutral" access to geographic NPAs, the same wireless interests have regularly sought to hide behind their own technical and operational limitations to actually *block* efforts by state PUCs to craft broadly beneficial and minimally impacting numbering solutions. In Pennsylvania, wireless carriers actively opposed number pooling, number conservation and other alternatives to the

50. In the Matter of Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois, IAD File No. 94-102, *Declaratory Ruling and Order*, FCC 95-19, Released January 23, 1995.

51. *Id.*, at para. 38.

creation of new area codes on the grounds that their systems were technically incapable of accommodating to these number assignment protocols.[52] And on November 14, 1997, having been unsuccessful in convincing the Pennsylvania PUC as to the merits of their position, several cellular carriers in that state petitioned the FCC for yet another Declaratory Ruling blocking the Pennsylvania Commission's TRNA/number pooling plan.[53]

While there are obvious physical differences between wireline and wireless technologies, to put it simply, wireless carriers should not be permitted to "have it both ways:" If they want and demand technological neutrality in their access to geographic NPAs, they must be required to accommodate their own operations so as not to impose costs and other operational burdens upon wireline carriers and users of wireline services. Yet that is precisely what has occurred since the issuance of the *Ameritech* Ruling. By demanding and receiving the grandfathering, code duplication, and other accommodations, wireless carriers have contributed to and accelerated precipitously the exhaust of NXX codes in existing geographic NPAs. By attempting to block rational efforts at number conservation and alternatives to the creation of permanent new NPAs and/or new mandatory dialing patterns (e.g., mandatory 10/11-digit local dialing on all calls), wireless carriers impose costs upon users of wireline services that far outweigh those that wireless carriers may avoid if their various demands continue to be honored.

While the FCC may see merit in blurring the distinction between wireline and wireless services by prohibiting technology-specific numbering treatments, the case for masking the distinction from the end user's perspective between geographically fixed and mobile services is far less compelling.[54] A strict constructionist application of the principle of

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52. *Petition for Reconsideration*, Bell Atlantic NYNEX Mobile (BANM), Docket Nos. P-00961027, P-00961061, and P-00961071, July 28, 1997; *Petition for Reconsideration*, Vanguard Cellular Systems Inc., Docket Nos. P-00961027, P-00961061, and P-00961071, July 30, 1997.

53. *In the Matter of the Pennsylvania Public Utility Commission Order Dated July 15, 1997 Regarding Area Code Relief in the 610, 215, 717, and 412 Area Codes*, Petition for a Declaratory Ruling and Request for Expedited Action, joint filing of Nextel Communications Inc., Bell Atlantic Mobile, Vanguard Cellular Systems, Inc., 360 Communications Company, and Sprint Spectrum L. P. d/b/a Sprint PCS, NSD File No. L-97-42, November 14, 1997.

54. Indeed, in actively seeking "Calling Party Pays" rate treatment for wireline-initiated calls to wireless services (Notice of Inquiry, *In the Matter of Calling Party Pays Service Option in the Commercial Mobile Radio Services*, FCC 97-341, WT Docket No. 97-207, released October 23, 1997), the wireless industry is itself introducing the very type of service-specific distinction that its technology-neutral numbering stance is supposed to avoid. Customers can generally determine whether a call to be placed to a given telephone number will be subject to local vs. toll rate treatment; indeed, in a number of jurisdictions, such dialing pattern distinctions are mandatory. In most cases, the distinction between "local" and "toll" can be made by the user based upon either the number of digits or the area code of the called number. If cellular calling party pays numbers are not similarly distinguishable from

(continued...)

technology neutrality in numbering policy would not permit the kind of special treatment that the wireless carriers have demanded and received. Similarly, a flexible application of this principle must be balanced so as not to unduly favor one technology while burdening others, as the special treatments afforded wireless carriers have accomplished.

The FCC should clarify its "technology neutrality" standard in the following specific respects:

(1) "Technology neutrality" with respect to number assignment is a "guideline" that is to be applied where economically reasonable and efficient and where its application will not accelerate number exhaust or impose costs and burdens upon other users of number resources.

(2) While strict adherence to the "technology neutrality" principle would create or impose burdens or costs upon certain users and/or carriers while benefitting others, the policy should be applied so as to minimize total societal costs.

(3) The burden of compliance with the technical requirements of any publicly beneficial number resource management policy, such as NXX-X LRN LNP number pooling, should be upon carriers desiring number assignments in geographic NPAs in which such programs are in effect, and the inability and/or unwillingness of individual carriers to comply with such technical requirements should not *per se* render such programs in violation of the "technology neutrality" policy.

The assignment of NPAs specifically designed for use by mobile communications services can serve to eliminate the future need for area code changes for both fixed and mobile services, and thereby minimize aggregate societal cost while assuring maximum availability of telephone numbers to all carriers and all services. Whatever pecuniary and operational benefits mobile services providers may realize from inclusion of these services in geographic NPAs must be balanced against, and necessarily subordinated to, the broader public interest and need for stability and certainty in the assignment and use of telephone number resources.

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54. (...continued)
other numbers to which no special (and high-priced) air time charge will apply, customers may be misled into placing calls that carry unexpected charges.

7 | CONCLUSION

The management of the nation's telephone number resources is far too important to be heft solely to the telephone industry, and the interests of wireless carriers in particular must not be permitted to overwhelm and dominate the larger public interest.

Effective, efficient, and *permanent* long term solutions to number resources management are now available, solutions that would be almost completely transparent to residential, business and government telephone users. Rather than continually adding new area codes, changing millions of individual telephone numbers, or introducing complex new dialing protocols, these approaches can assure a sufficient supply of numbers for all carriers, incumbents and new entrants, fixed and mobile, for decades into the future.

The sole "objection" to the various permanent solutions — number pooling and rate center consolidation — that has been advanced by carriers is that these measures will require considerable time and cost to put in place. At the same time, it makes no sense to subject millions of residential and business telephone users to *permanent* forced number changes as a *temporary* means of buying time until one or more of the permanent solutions becomes available. Thus, while pursuing permanent solutions, regulators should also work expeditiously to implement interim solutions that minimize overall societal costs by avoiding forced number changes or mandatory dialing changes wherever possible.

Policymakers must adapt number resource policy to the changing industry environment. They must recognize and accommodate the fundamentally different needs of fixed and mobile services, and not attempt to create a common solution for both that is satisfactory to neither. Maintaining "technology neutrality" for fixed and mobile services might well be a reasonable policy if it did not in the process impose costs and other burdens, including the loss of "competitive neutrality," upon the industry and the public at large. But that is not the case. At best "technology neutrality" must serve as a "guideline" to be applied where economically reasonable and efficient, rather than as an absolute "right" to which the wireless carriers claim some inalienable entitlement.

The Ad Hoc Telecommunications Users Committee and the International Communications Association share and support the overarching legislative and regulatory objectives of maximizing competition and minimizing overall societal costs. Neither of these goals is advanced by the wireless carriers' self-serving interpretation of a "technological neutrality" numbering policy or by its absolute application in the manner in which many wireless carriers propose.

And regulators must also overcome the incumbent wireline carriers' resistance to change in long-standing — and long obsolete — number administration convictions. Pecuniary interests of incumbent carriers to retain highly fragmented rating area structures, to resist efforts at number pooling and code sharing, and to promote area code relief strategies that competitively benefit the number-rich incumbents relative to their new local service rivals, must be subordinated to the larger public and societal interest.

The "right" solution will benefit all stakeholders — carriers and customers, incumbents and competitors, and fixed and mobile service providers. Getting there may be difficult, but it will be well worth the effort.

Certificate of Service

I, Molly McEwan, hereby certify that true and correct copies of the preceding Comments of the Ad Hoc Telecommunications Users Committee in RM No. 9258 were served this 7th day of May, 1998 via hand delivery upon the following parties:

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May 7, 1998